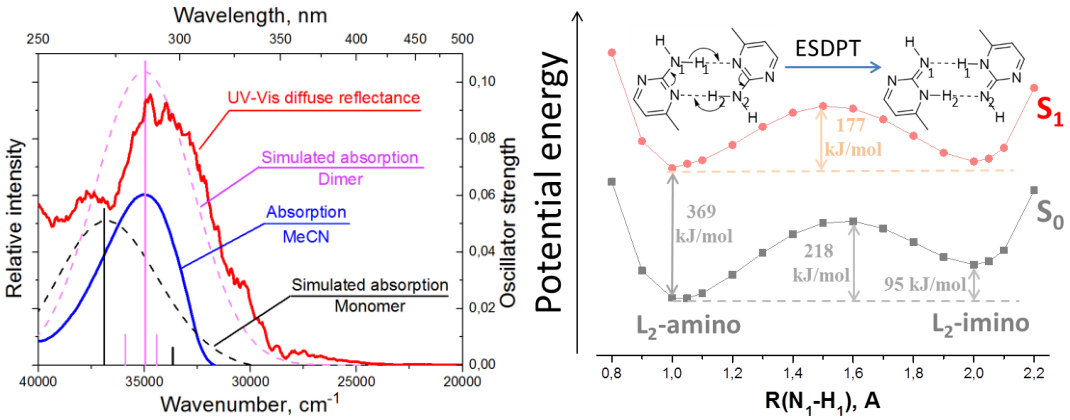

Fig 2. Experimental and simulated absorption spectra of L (left); 2D potential energy curves for the ground and first singlet excited states of L_2 with variation of N_1–H_1 and N_2–H_2 bond lengths (right)

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1,3-DIPOLAR CYCLOADDITION REACTION OF FUSED 1*H*-PYRROLE-2,3-DIONES WITH NITRONES: A DIVERGENT APPROACH TO PYRROLOISOXAZOLES*

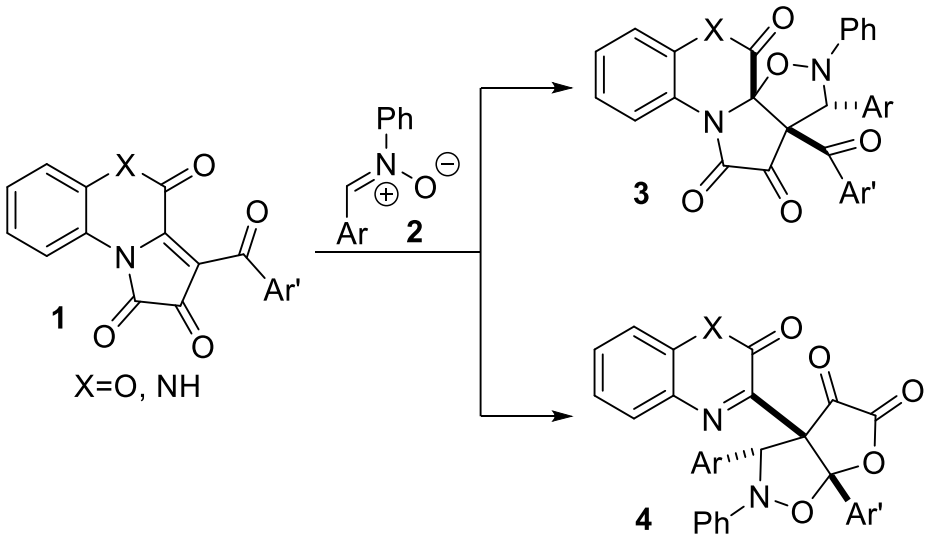
Keywords: 1,3-dipolar cycloaddition, isoxazole, nitrones, 1*H*-pyrrole-2,3-dione, rearrangement.

Divergent synthesis is a promising trend in small molecules drug discovery [1, 2]. It allows to investigate the chemical space more efficiently and economically since diverse compounds collections are created from a limited set of reagents.

1,3-Dipolar cycloaddition is a facile tool for simultaneous introduction of several stereogenic centers through a single step to afford complex heterocyclic structures [3]. In the view of requirements of green chemistry, it seems to be a beneficial synthetic approach since it proceeds in an atom and step economic manner along with high regio- and stereoselectivity.

1*H*-Pyrrole-2,3-diones fused at [*e*]-side (hetareno[*e*]pyrrole-2,3-diones) are readily available polyelectrophilic reagents enabling synthesis of various heterocyclic systems with divergent skeletons [4, 5].

We have developed a divergent approach to skeletally diverse isoxazoles *via* 1,3-dipolar cycloaddition reaction of hetareno[*e*]pyrrole-2,3-diones **1** with nitrones **2**. Isoxazoles **3** [6] and **4** can be obtained from a single set of reagents (compounds **1** and **2**), and the formation of compounds **3** or **4** proceeds regioselectively in dependence on the reaction conditions (solvent and temperature).



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